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Applicant: Sibbring, Ronald
 56 Grange View Crescent
 Kimberworth, Rotherham S61 2BB(GB)

Inventor: Sibbring, Ronald
 56 Grange View Crescent
 Kimberworth, Rotherham S61 2BB(GB)

Representative: Dodd, David Michael et al
 c/o Mewburn Ellis, 2 Cursitor Street
 London EC4A 1BQ(GB)

Exercise device.

An exercise device of the treadmill type on which a user can walk or run.

So that the user can very easily put the device in motion, the device has two separate tracks 14 and

16 arranged side by side and movable independently of each other.

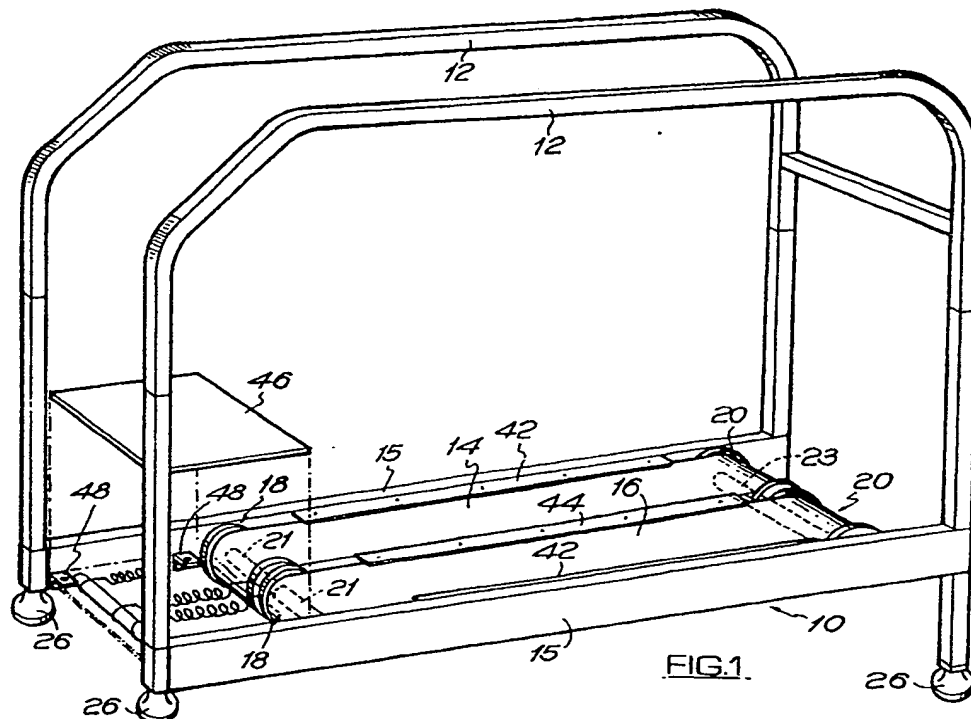


FIG. 1

EXERCISE DEVICE.

The invention relates to an exercise device of the treadmill type on which a person can walk or run on a moving track.

Various constructions of treadmill type exercise devices are known but they all suffer from one particular disadvantage, this being that, unless they are motor driven, they are all difficult to start.

The invention as claimed is intended to provide a remedy. It solves the problem of how to design an exercise device of the treadmill type without the particular disadvantage of previous devices of this type.

The main advantage offered by the invention is that it provides an exercise device of the treadmill type which, despite being devoid of a drive motor, is easy to start.

One way of carrying out the invention is described in detail below with reference to drawings which illustrate, by way of example, one specific embodiment, in which:-

Figure 1 is a perspective partly exploded view of an exercise device embodying the invention,

Figure 2 is a view similar to Figure 1 but with certain parts broken away to reveal hidden details, and

Figure 3 is a sectional view on the line 3-3 in Figure 2.

Referring now to the drawings, the exercise device there illustrated is of the treadmill type on which a person can walk or run, the device including a basal part, generally indicated 10, and up-standing tubular steel hand rails 12 extending in parallel, as shown, so that a person can hold them at least when first mounting the device. As shown, the hand rails are formed continuous with tubular steel corner posts which extend downwardly beneath the basal part to form legs the lower ends of which are provided with robber feet 26. Means (not shown) are provided whereby the opposite ends of the basal part can be adjusted up and down the respective pairs of corner posts so that the basal part may be arranged either horizontally or with a desired degree of slope.

As shown, the basal part of the device has longitudinally extending box section side members connected together by box section bearers 17 (see Figure 2). Between the side members are located two separate tracks 14 and 16 arranged side by side, the tracks being caterpillar tracks constituted by synthetic plastics belts 19 which extend around respective pairs of flanged drums 18, near the opposite ends of the basal part 10. The drums 20,20 are rotatable on a common mounting shaft 23 but the drums 18,18 are rotatable on respective mounting shafts 21. The drums are all freely rotat-

able on their shafts so that each track is movable relative to the other. The shaft 23 is fixed in position but the shafts 21 are located at their opposite ends between pairs of parallel guide members 25 which are welded to the side members 15 and between the upper and lower flanges of a length of I-section metal bar 29 which is welded to an end-most one of the bearers 17. Coil tension springs 30,30 are each connected to one of the shafts 21 and to a shaft 32 adjacent the end of the basal part, said springs acting to impose a tension in the belts 19.

The flat upper runs of the two side by side tracks are supported by a support plate 34 which is resiliently mounted between the side members 15,15 of the basal part, being mounted on a plurality of coil compression springs 36 which encircle respective retaining rods 38 extending downwardly through clearance holes 40 in the bearers 17. The belts 19,19 are slideable on the smooth and flat top surface of the support plate. They are laterally constrained by locating strips 42 and 44, positioned at the outer edges of the tracks and between said tracks respectively. The locating strips overlie the side edges of the two tracks.

As shown in Figure 1, a mounting board 46 is located at one end of the basal part, being secured on brackets 48 which are welded to the side members 15. The arrangement is such that a user of the device can step onto the mounting board and from there can step forwards onto the side by side tracks.

By virtue of the fact that the device has two independently movable tracks, it is very easy to set in motion because, as the user steps onto the device (whilst probably but not necessarily holding one or both of the hand rails 12) he can set one of the tracks in motion with one foot whilst standing on the other, for the moment stationary, track. He can then immediately start to walk forwards to start said other track.

Various modifications may be made. For example, it will be understood that the flat upper runs of the two side by side tracks can be supported in any convenient manner and that instead of being slideable on the smooth and flat top surface of the support plate 34, the latter could have a plurality of independently rotatable closely spaced support elements of spherical form mounted for free rotation in respective cavities in said support plate. Equally effective would be a plurality of closely spaced rollers, each in-line pair of rollers of the two side by side tracks being independently rotatable relative to each other of course.

The support plate 34 need not necessarily be

resiliently mounted. In a smaller scale version of the apparatus intended for use mainly by children it has been found appropriate to mount the support plate 34 directly on the bearers 17.

The device could be provided with a speedometer to indicate to the user the speed at which he is running or walking. Means may also be provided for indicating distance travelled.

The device could be provided with a seat which would adapt it especially for hospital use or for use for example in old peoples' homes.

7. An exercise device according to any one of the preceding claims, mounted on means whereby one end of the device can be adjusted in height relative to the other end.

Claims

1. An exercise device of the treadmill type, characterised in that it has two separate tracks (14,16) arranged side by side, each track being operative independently of the other, the arrangement being such that the user of the device can stand with one foot on each track and can start to walk or run with either foot whilst the other foot for the moment remains stationary.

2. An exercise device according to claim 1, in which the two tracks (14,16) are caterpillar tracks constituted by flexible endless belts (19) which extend around respective pairs of drums (18,20).

3. An exercise device according to claim 2, in which one drum of each pair of drums (18,20) is rotatable on a shaft (21) which is located at its opposite ends in respective guides, the shafts (21,21) being acted on by springs (30,30) which act to hold the flexible endless belts (19,19) under tension.

4. An exercise device according to either one of claims 2 and 3, in which the flat upper runs of the two side by side tracks (14,16) are slideable on a support plate (34) or on respective support plates, or supported by a plurality of independently rotatable support elements mounted on a support plate or respective support plates, or supported by a plurality of closely spaced rollers, each in-line pair of rollers of the two side by side tracks (14,16) being independently rotatable relative to each other.

5. An exercise device according to claim 4, in which the support plate (34) or the respective support plates on which the flat upper runs of the two side by side tracks (14,16) are slideable, or on which the plurality of independently rotatable support elements are mounted, as the case may be, is or are resiliently supported.

6. An exercise device according to any one of the preceding claims, in which the two separate tracks (14,16) are located in a common basal part (10), and hand rails (12,12) extend in parallel at either side of the device so that a person can hold them at least when first mounting the device.

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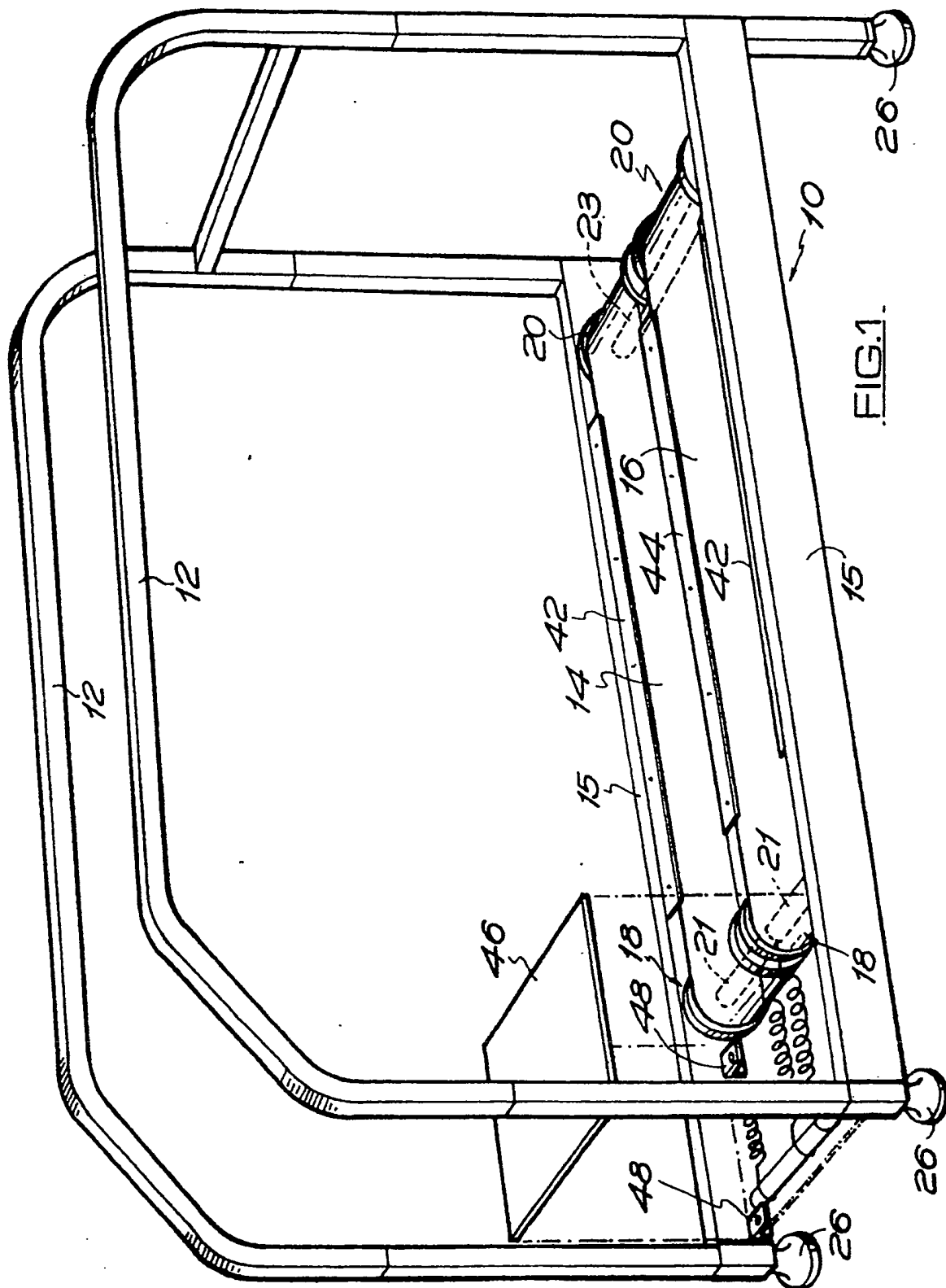
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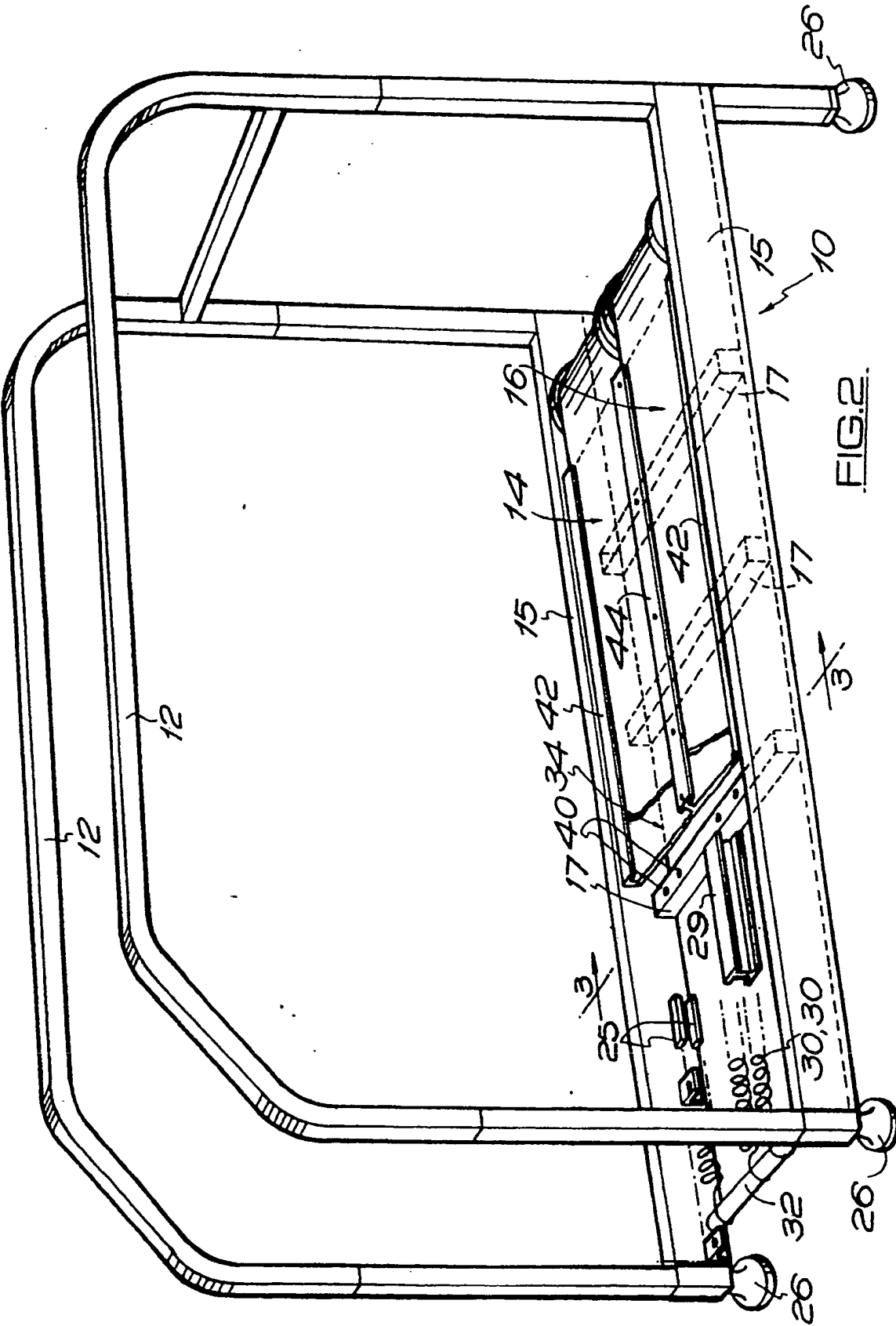


FIG.2.

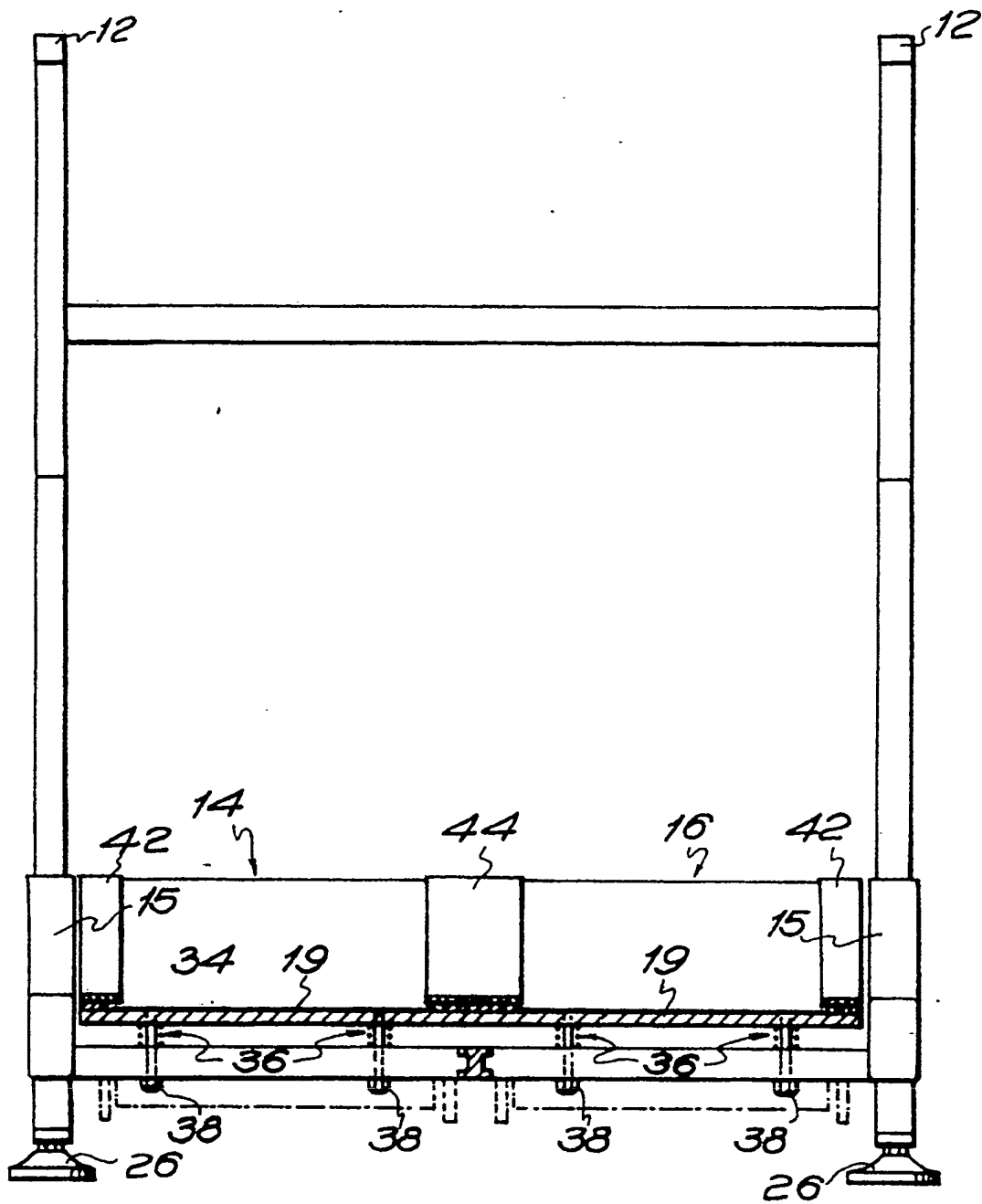


FIG. 3



DOCUMENTS CONSIDERED TO BE RELEVANT			EP 90309717.8
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	<u>US - A - 4 204 673</u> (SPEER) * Totality * --	1, 2, 4, 7	A 63 B 22/02
Y	<u>CH - A - 221 620</u> (MEISTERHANS) * Totality * --	1, 2, 4, 7	
A	<u>US - A - 3 703 284</u> (HESEN) * Abstract; fig.; claim 1; second column, lines 43-58 * --	1, 2, 4, 7	
A	<u>US - A - 4 374 587</u> (OGDEN) * Abstract; fig. 1, 2, 3, 4, 7, 10; column 6, lines 31-41; column 9, last break and column 10, first break * --	1, 2, 3, 4, 6, 7	
A	<u>GB - A - 384 019</u> (GASKELL ALLEN) * Fig.; claims 1-5 * ----	1, 2, 4, 6	TECHNICAL FIELDS SEARCHED (Int. Cl.5) A 63 B 22/00 A 63 B 23/00
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 07-11-1990	Examiner SCHÖNWÄLDER
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document I : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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